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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,185	12/20/2001	Yoshihiro Izumi	46315-C (70904)	1774
21874	7590	05/04/2004	EXAMINER	
EDWARDS & ANGELL, LLP			PARKER, KENNETH	
P.O. BOX 55874			ART UNIT	
BOSTON, MA 02205			PAPER NUMBER	
			2871	

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/027,185

Applicant(s)

IZUMI, YOSHIHIRO

Examiner

Kenneth A Parker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Primer Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 14-19, 27-34, 36-44 and 46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6, 14-19, 32, 33, 41, 43 and 44 is/are allowed.
- 6) ☒ Claim(s) 27-31, 34, 36-40, 42 and 46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☒ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

Claims 34, 35-40, 42, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nam 5711693.

Nam et al discloses a liquid crystal device formed with multiple panels (tiles), adhesives, etc. According to Nam, the tiles are stacked together, glued, polished and separated. As this process must be polishing the sides (otherwise stacking is nonsensical), the cut edges are being polished. Nam indicates three steps of polishing, 1st with number 200 powder, 2nd with number 1200 powder, and third polishing to optical precision employed for lenses (see col. 5, lines 12-21). The number 1200 powder is 3um particles, which would be used for polishing on the order of 3um. The powder polishing techniques are lapping techniques, which, according to the Handbook of Optics, page 40.4, polish to about 1um (page 40.4, bottom of page). The next step, the optical finish employed with lenses, is shown to be about .1um (page 40.4, top of page, of the Handbook of Optics). The feature of the polarizers outside the cell covering both surfaces, besides being the method used by everyone in tiled displays, is explicitly disclosed in figure 2. Therefore, employing smoothnesses and alignment greater than the claimed values would have been obvious to one of ordinary skill as taught by Nam.

Nam et al discloses a liquid crystal device formed with multiple panels, adhesives, etc. It was well known that the adhesive must be optically transmissive,

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and it was established that to do so it must be index of refraction matched to the bonding surfaces, so to do so would have been obvious to one of ordinary skill. Crossed polarizers were conventional, as were black matrixes, driving means and color filters on the opposing substrates, and as such would have been obvious to one of ordinary skill, as using the conventional component had the advantage of low cost (established supply chains).

The functional limitation of claim 35 is not seen as patentably distinguishing over the prior art, as there would be no way of determining whether or not the limitation was met.

Claims 34, 36-40, 42, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honjo JP 1-0251013 in view of Nam 5711693.

Honjo discloses everything except the positional accuracy and surface finishing precision. According to Nam, the tiles are stacked together, glued, polished and separated. As this process must be polishing the sides (otherwise stacking is nonsensical), the cut edges are being polished. Nam indicates three steps of polishing, 1st with number 200 powder, 2nd with number 1200 powder, and third polishing to optical precision employed for lenses (see col. 5, lines 12-21). The number 1200 powder is 3um particles, which would be used for polishing on the order of 3um. The powder polishing techniques are lapping techniques, which, according to the Handbook of Optics, page 40.4, polish to about 1um (page 40.4, bottom of page). The next step, the optical finish employed with lenses, is shown to be about .1um (page 40.4, top of

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page, of the Handbook of Optics). The feature of the polarizers outside the cell covering both surfaces, besides being the method used by everyone in tiled displays, is explicitly disclosed in figure 2. Therefore, employing smoothnesses and alignment greater than the claimed values would have been obvious to one of ordinary skill as taught by Nam.

Nam et al discloses a liquid crystal device formed with multiple panels, adhesives, etc. It was well known that the adhesive must be optically transmissive, and it was established that to do so it must be index of refraction matched to the bonding surfaces, so to do so would have been obvious to one of ordinary skill. Crossed polarizers were conventional, as were black matrixes, driving means and color filters on the opposing substrates, and as such would have been obvious to one of ordinary skill, as using the conventional component had the advantage of low cost (established supply chains).

The functional limitation of claim 35 is not seen as patentably distinguishing over the prior art, as there would be no way of determining whether or not the limitation was met.

Claims 27-31, 34, 36-40, 42, 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honjo JP2-093683 in view of Nam 5711693.

Honjo discloses everything except the positional accuracy and surface finishing precision. According to Nam, the tiles are stacked together, glued, polished and separated. As this process must be polishing the sides (otherwise stacking is

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nonsensical), the cut edges are being polished. Nam indicates three steps of polishing, 1st with number 200 powder, 2nd with number 1200 powder, and third polishing to optical precision employed for lenses (see col. 5, lines 12-21). The number 1200 powder is 3 μ m particles, which would be used for polishing on the order of 3 μ m. The powder polishing techniques are lapping techniques, which, according to the Handbook of Optics, page 40.4, polish to about 1 μ m (page 40.4, bottom of page). The next step, the optical finish employed with lenses, is shown to be about .1 μ m (page 40.4, top of page, of the Handbook of Optics). The feature of the polarizers outside the cell covering both surfaces, besides being the method used by everyone in tiled displays, is explicitly disclosed in figure 2. Therefore, employing smoothnesses and alignment greater than the claimed values would have been obvious to one of ordinary skill as taught by Nam.

Nam et al discloses a liquid crystal device formed with multiple panels, adhesives, etc. It was well known that the adhesive must be optically transmissive, and it was established that to do so it must be index of refraction matched to the bonding surfaces, so to do so would have been obvious to one of ordinary skill. Crossed polarizers were conventional, as were black matrixes, driving means and color filters on the opposing substrates, and as such would have been obvious to one of ordinary skill, as using the conventional component had the advantage of low cost (established supply chains).

The functional limitation of claim 35 is not seen as patentably distinguishing over the prior art, as there would be no way of determining whether or not the limitation was met.

Allowable Subject Matter

Claims 1-6, 14-19, 32-33, 41, 43-44 are allowed.

Response to Arguments

Applicant's arguments filed have been fully considered but they are not persuasive. Applicant's arguments over name that raising the surface precision is beneficial is lacking as Nam has and teaches reasons to raise the surface precision. Construed as an unexpected result, as Nam already has the surface precision, Nam already should enjoy the benefit (unless the benefit requires high modulus of elasticity, in which case the claims are not commensurate with the purported benefit). The elements lacking from Nam were just the well known features required to make a standard working device, parts akin to breaks, paint, a windshield, etc., on a car, and all which give the expected benefit of the fundamental functions they perform (applicants have not argued the well known benefits asserted by the examiner, and therefore these have taken the status of admitted prior art). As the benefits are essentially required to make a reasonable working device, they are seen as having very strong expected benefits, and as applicant has not asserted any unexpected results of adding these

elements, they are considered obvious. Regarding the combination of Nam with the other references, the motivations of Nam enable a high resolution display, is seen as outweighing the unexpected benefit of preventing bubbling and index variation.

Conclusion

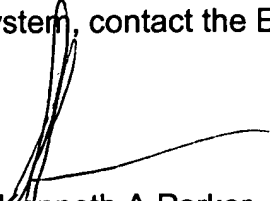
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Parker whose telephone number is 571-272-2298. The examiner can normally be reached on M-F 10:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kenneth A Parker
Primary Examiner
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4/31/2004